

**REMARKS**

**INTRODUCTION**

In accordance with the foregoing, no claims have been canceled, amended, or added. Claims 1-9 and 14-15 are pending and under consideration. Reconsideration is respectfully requested.

**REJECTION UNDER 35 U.S.C. §103**

In the Office Action, at page 2, claims 1-9 and 14-15<sup>1</sup> were rejected under 35 U.S.C. §103 as being unpatentable over U.S. Patent No. 6,487,472 issued to Song et al. ("Song") in view of Japanese Patent Publication No. 2002-324738 ("the '738 Publication"). The reasons for the rejection are set forth in the Office Action and therefore not repeated. The rejection is traversed and reconsideration is requested.

**The Prior Art Fails to Teach or Suggest Every Claim Feature**

Regarding claims 1 and 15, the Applicants respectfully traverse the rejection because the proposed combination of Song and the '738 Publication fails to teach or suggest either:

- diagnosing an operational state of the plurality of sub-modules prior to beginning the semiconductor device manufacturing process (claim 1); or
- diagnosing an operational state of the plurality of sub-modules prior to beginning the first semiconductor device manufacturing process (claim 15).

The Office Action admits that Song fails to teach or suggest these features, and instead cites the '738 Publication. The Applicants respectfully disagree.

The '738 Publication is directed to detecting a contamination state of a wafer before processing of the wafer in a wafer fabrication machine. '*738 Publication*, Abstract. The '738 Publication does not suggest "diagnosing an operational state" but rather a contamination state. Further, the '738 Publication does not suggest diagnosing a state of a "plurality of sub-modules", as recited in claims 1 and 15. Accordingly, the Applicants respectfully submit that the proposed

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<sup>1</sup> Page 2 of the Office Action states "Claims 1-9 and 14 are rejected under 35 U.S.C. 103(a) ..." However, this rejection is clearly applied to claim 15 on page 5 of the Office Action.

combination of Song and the '738 Publication fails to teach or suggest the diagnosing operations of claims 1 and 15.

As an additional distinction with respect to Song, an embodiment of the present invention provides a system for diagnosing the operational states of the semiconductor device fabrication system, wherein the system is different from the control system and should be connected to the fabrication system. Song provides a predetermined value for the operational states of the semiconductor device system, wherein the predetermined value is stored in the control system and used in diagnosing.

The Applicants respectfully submit that at least because neither Song nor the '738 Publication teach or suggest all of the features of claims 1 and 15, the proposed combination of Song and the '738 Publication fails to establish a prima facie case of obviousness. Accordingly, claims 1 and 15 are deemed to be allowable over the art of record. Therefore, withdrawal of the §103 rejection is respectfully requested.

No Suggestion Or Motivation To Combine The Reference Teachings

The Applicants respectfully submit that the Office Action fails to provide a valid line of reasoning from the prior art to combine the teachings of Song and the '738 Publication. Rather, the Office Action states at page 5:

It would've been obvious to one skilled in the art at the time of the invention to modify the Song reference with Japanese application 2002-324738 to diagnose the sub-modules prior to beginning the manufacturing process, in order to determine whether semiconductor fabrication machines and equipment are polluted with processing the lot or wafer of the pollution state. (Page 3, Paragraph 006).

It is unclear how determining whether a semiconductor machine or wafer is polluted provides any motivation to combine the teachings of the '738 Publication with teachings of Song. Accordingly, the Applicants respectfully submit that the above statement, at best, amounts to an improper hindsight reconstruction of the invention. Accordingly, withdrawal of the 103 rejection is respectfully requested.

Claims 2-9 and 14 Depend From A Patentably Distinct Independent Claim

Regarding the rejection of claims 2-9 and 14, these claims depend directly or indirectly on independent claim 1, and are therefore believed to be allowable for at least the reasons noted above.

## CONCLUSION

In accordance with the foregoing, it is respectfully submitted that all outstanding objections and rejections have been overcome and/or rendered moot. And further, that all pending claims patentably distinguish over the prior art. Thus, there being no further outstanding objections or rejections, the application is submitted as being in condition for allowance which action is earnestly solicited.

If the Examiner has any remaining issues to be addressed, it is believed that prosecution can be expedited by the Examiner contacting the undersigned attorney for a telephone interview to discuss resolution of such issues.

If there are any underpayments or overpayments of fees associated with the filing of this Amendment, please charge and/or credit the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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